

**MASS DEFECT LABELING FOR THE DETERMINATION OF OLIGOMER
SEQUENCES**

ABSTRACT OF THE DISCLOSURE

5 Mass tagging methods are provided that lead to mass spectrometer detection
sensitivities and molecular discriminations that are improved over other methods. In
particular the methods are useful for discriminating tagged molecules and fragments of
molecules from chemical noise in the mass spectrum. These mass tagging methods are useful
for oligomer sequencing, determining the relative abundances of molecules from different
10 samples, and identifying individual molecules or chemical processing steps in combinatorial
chemical libraries. The methods provided are useful for the simultaneous analysis of multiple
molecules and reaction mixtures by mass spectrometric methods.

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